Integrated LCD KVM Switch

Installer/User Guide

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## Installer/User Guide

Instructions

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Dangerous Voltage

This symbol is intended to alert the user to the presence of uninsulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

Power On

This symbol indicates the principal on/off switch is in the on position.
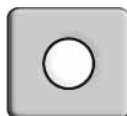
Power Off

This symbol indicates the principal on/off switch is in the off position.

Protective Grounding Terminal

This symbol indicates a terminal which must be connected to earth ground prior to making any other connections to the equipment.

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CHAPTER

1

Installation

Introduction

Supporting both USB and PS/2 interfaces, the Integrated LCD KVM Switch can control up to eight servers. Built-in keyboard, video and mouse (KVM) peripherals not only save valuable cabinet space, but also enable direct channel selection via on-screen display (OSD) or keyboard hotkeys. The Integrated LCD KVM Switch also features the capacity to daisy-chain up to 16 levels.

Time-out and password protection offer secure access to the Integrated LCD KVM Switch, while the hot-plug feature allows for uninterrupted switching and usage.

Getting Started

Before installing your Integrated LCD KVM Switch, refer to the following list to ensure you have all items that shipped with the appliance, as well as other items necessary for proper installation.

Supplied with the Integrated LCD KVM Switch

- Integrated LCD KVM Switch
- Rack mount kit
- Eight KVM cables
- Power supply
- Daisy-chain cable
- Upgrade cable
- Ground terminator

Installation

If you are installing your Integrated LCD KVM Switch to a PS/2 interface, you must turn off all servers before connecting your appliance to a server for proper installation. USB interfaces do not need to be turned off before installation.

NOTE: Linux users may experience mouse failure if hot-plugging directly to the Integrated LCD KVM Switch. If your mouse becomes locked, use the mouse reset hotkeys (see *Appendix A*) to reset your mouse, or turn the Linux server off before connecting it to the Integrated LCD KVM Switch.

To install the Integrated LCD KVM Switch:

1. Plug one end of the supplied power cord into the back of the switch and the other end into an appropriate power source.

2. Connect your servers to an available port on the rear of your Integrated LCD KVM Switch using the appropriate cable.

3. Turn on all connected servers. Keyboard and mouse recognition is now activated and your Integrated LCD KVM Switch is ready for operation. Figure 1.1 below shows a basic configuration for the Integrated LCD KVM Switch.
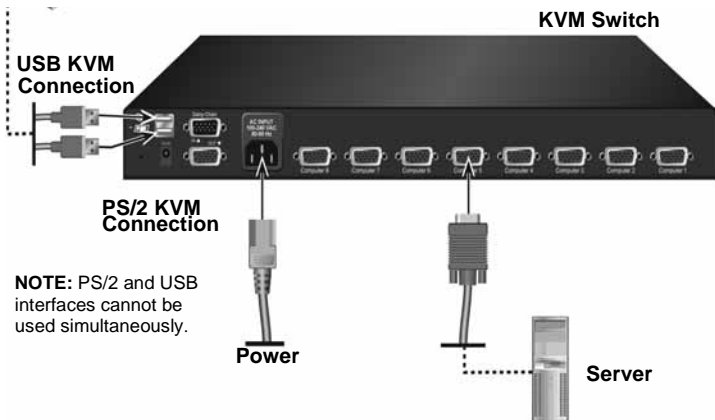

Figure 1.1: Basic Integrated LCD KVM Switch Server Configuration

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CAUTION: To reduce the risk of electric shock or damage to your equipment:
- Plug the power cord into a grounded (earthed) outlet that is easily accessible at all times.
- Disconnect the power from the unit by unplugging the power cord from either the electrical outlet or the unit.

Rack Mounting Your Integrated LCD KVM Switch

Your Integrated LCD KVM Switch may be rack mounted using brackets. Before installing the switch, stabilize the rack in a permanent location. Be sure to rack your Integrated LCD KVM Switch in an area of the cabinet that will allow you to utilize the LCD monitor, keyboard and mouse funtions.

CAUTION: Rack Loading - Overloading or uneven loading of racks may result in shelf or rack failure, causing damage to equipment and possible personal injury. Do not exceed your rack load rating.

To mount the Integrated LCD KVM Switch:

1. Loosen the four rear screws of each mounting bracket without completely removing the screws. You will have to extend the bracket to access two of the screws on the bracket.

NOTE: Mounting brackets are labeled with an "L" for the left-side bracket and an "R" for the right-side bracket.

2. Using the M4 screws provided, connect both left and right brackets to the cabinet frame. After securing the brackets to the cabinet, tighten the four rear screws loosened in step 1.
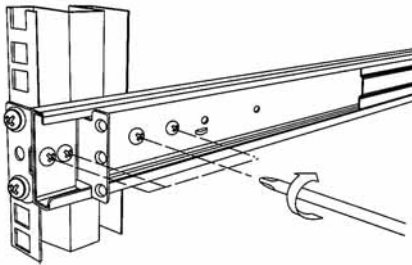
Figure 1.2: Installing the Integrated LCD KVM Switch to a Cabinet

3. Align the rear of the Integrated LCD KVM Switch with attached brackets and slide the unit into the front of the cabinet.

NOTE: Avocent recommends having two people assist each other while rack mounting this unit.

4. Using the Integrated LCD KVM Switch keys, unlock the unit and pull the rail lock switches located on the side of the unit. Guide the Integrated LCD KVM Switch into the cabinet.

5. Using the flat screws provided, attach both the left and right brackets to the Integrated LCD KVM Switch to secure the unit.

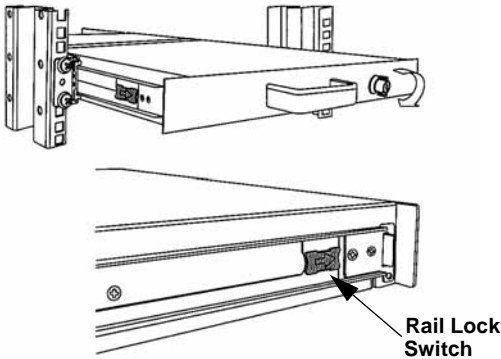**Figure 1.3: Utilizing the Rail Lock Switch**

NOTE: To attach the long support brackets (for cabinet mounts more than 33 inches long), you must remove the factory installed rear brackets and replace with the long brackets provided. Adjust the long brackets to fit the cabinet and use two of the previously removed screws to tighten. Repeat steps 1-5 of the mounting procedure to secure the unit.

After installation, reference the following table which lists the functions of the LCD monitor push-buttons.

Table 1.1: Monitor Push-button Functions

Controls	Description
⏻	Soft turn your Integrated LCD KVM Switch on or off.
Auto	Auto-synchronizes and scales down display to factory presets.
Up	Allows you to scroll up to a function and change values within that function.
Down	Allows you to scroll down to a function and change values within that function.
Menu	Accesses the main menu and acts as the Enter button. Press **Menu** to apply changes.

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Accessing and using the OSD menus (LCD monitor)

The panel controls listed in the following table allow you to access and manipulate the OSD functions of your LCD monitor (Input Source, Auto Tune, Brightness, Contrast, Color, Position, Language, Recall and Exit). Each LCD monitor OSD function is accessed by pressing the **Menu** button twice and moving up or down to your selection. Press **Menu** again to select the option you want to change. See *Accessing and using the OSD menus (KVM switch)* on page 5 for more OSD options on the Integrated LCD KVM Switch.

Table 1.2: OSD Functions (LCD Monitor)

OSD Function	Description
Auto Tune	Automatically tunes the video of your LCD monitor.
Brightness	Allows you to adjust the brightness of the LCD monitor.
Contrast	Allows you to vary the contrast of the LCD monitor.
Color	Allows you to change the color on the LCD monitor.
Position	Allows you to adjust the position of either the image on the LCD monitor or the OSD itself.
Language	Allows you to select from the following languages: English, German, French, Italian or Spanish.
Recall	Allows you to recall the original factory settings. Select *Yes* in the OSD window after opening this function to restore factory settings.
Exit	Allows you to quit the OSD menu.

Accessing and using the OSD menus (KVM switch)

The OSD menus for your KVM switch allow you to access and edit your server name, setup functions, autoscan capabilities and firmware upgrades. Table 1.3 lists basic OSD hotkey sequences.

Table 1.3: Navigating the OSD Menu (KVM Switch)

To do this:	Use this hotkey sequence:
Activate KVM switch OSD	**ScrLk + ScrLk + Spacebar**
Deactivate KVM switch OSD	**ESC** *(Escape key)*

Table 1.3: Navigating the OSD Menu (KVM Switch) (Continued)

To do this:	Use this hotkey sequence:
Change Value	Left/right arrow keys
Select Item	Up/down arrow keys

NOTE: The two consecutive **ScrLk** keystrokes should be pressed within two seconds and the following command key(s) should also be pressed within two seconds. Otherwise, the hotkey sequence will not be validated.
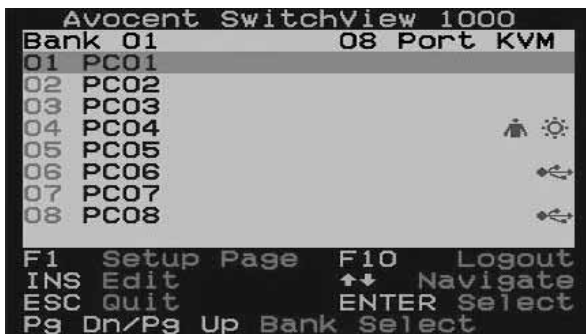
Figure 1.4: Main OSD Window (8-port Integrated LCD KVM Switch)

The following options will be selectable via the Main OSD window.

Table 1.4: Main OSD Menu Functions

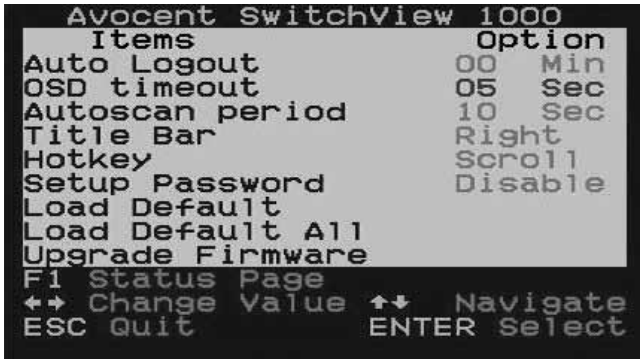| Function	Description
Select server	Use up/down arrow key to navigate and press **PgUp/PgDn** to scroll page. Press **Enter** to select.
Edit server name	Pressing **Insert** allows you to change a server name. **Enter** confirms the change.
Function	Description
Setup	A submenu for various configurations.
Logout	Logs out keyboard and mouse for security.

Figure 1.5: Setup Options Window

The following options will be selectable via the Setup OSD window.

Table 1.5: Setup Menu Functions

Function	Description
Auto logout	Specifies time for auto logout (0 to 99 min). Your password must be configured and enabled for auto logout to function.
OSD timeout	Specifies duration for OSD menu to remain on screen.
Autoscan period	Specifies time for the autoscan period.
Title bar	Specifies the position of the OSD title bar.
Hotkey	Specifies the hotkey initiation sequence: **ScrLk** (default), **Caps Lock**, **ESC**, **F12** or **Num Lock.**
Setup Password	Enter user-selectable password.
Load Default	Loads the default settings.
Upgrade Firmware	Upgrades the firmware of the switch.

Upgrading firmware

The Integrated LCD KVM Switch firmware is upgradable via the firmware upgrade cable (included). Maintaining current firmware enhances the Integrated LCD KVM Switch's compatibility with other devices. Go to www.avocent.com/support for more information on upgrading your firmware.

To upgrade your Integrated LCD KVM Switch:

Prior to beginning the firmware upgrade process, ensure that you have an RS-232 port (COM port), a mouse and a keyboard directly connected to the host server. You will also need the upgrade cable, upgrade utility and upgrade file.

NOTE: When enabling the upgrade mode via the OSD, be sure to connect a monitor directly to the host server that performs the upgrade.

1. Turn on the Integrated LCD KVM Switch.
2. Press the **Menu** button twice to invoke the OSD menu and press **F1** to enter the Setup Page. Navigate to Upgrade Firmware and press the **Enter** button.
3. Select *Yes* and press the **Enter** button to enable upgrade mode.
4. Use the firmware upgrade cable to connect the RS-232 port (COM port) of the host server to the Daisy Chain In port of the (primary) Integrated LCD KVM Switch.
5. Double-click on the SV1000 upgrade utility icon to bring up the following window.

NOTE: The firmware upgrade process automatically upgrades all Integrated LCD KVM Switches daisy-chained to your primary switch.
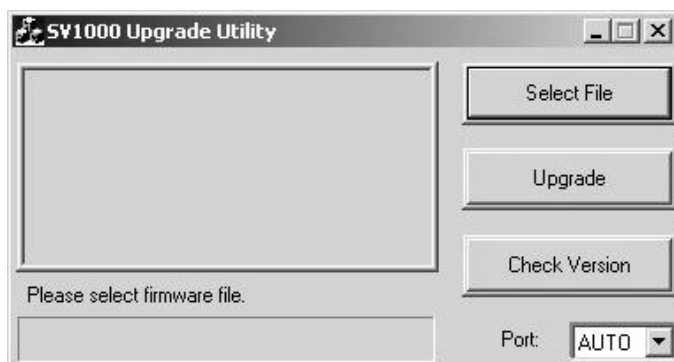

Figure 1.6: Main Upgrade Utility Window

6. Click *Select File* to locate the firmware upgrade file.
7. Click *Check Version* to see the current firmware version of your Integrated LCD KVM Switch. If the selected firmware file is a newer version, click *Upgrade* to start the upgrade process.

NOTE: During the upgrade process, do not remove the upgrade cable or Integrated LCD KVM Switch power adaptor.

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8. An *Upgrade complete!* message appears above the progress bar after a successful firmware upgrade. You may now exit the utility.

Daisy-chaining your Integrated LCD KVM Switch

The Integrated LCD KVM Switch features up to 16 levels of attached switches via the daisy-chain cable. The KVM switch has a 128 server daisy-chain limit. Contact Avocent to purchase additional KVM switches and cables.

To cascade multiple switches:

1. Plug one end of the daisy-chain cable into the Daisy Chain Out port on the rear of your primary Integrated LCD KVM Switch.
2. Connect the other end of the daisy-chain cable to the Daisy Chain In port on the secondary KVM switch.
3. Repeat steps 1 and 2 for all subsequent switches.
4. Plug the ground terminator into the Daisy Chain Out port on the rear of the last daisy-chained Integrated LCD KVM Switch.
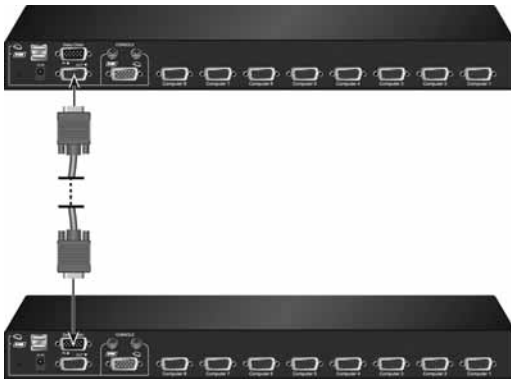

Figure 1.7: Basic Daisy-Chain Example

APPENDICES

Appendix A: Quick Reference Guide

Table A.1: Integrated LCD KVM Switch Quick Reference Guide

Command	Hotkeys	OSD Control	Front-panel	Description
Select Server	**ScrLk + ScrLk +** (a) + (b) + (y) + (z) ab = bank no. xy = channel no.)	Cursor keys to navigate **Enter** to select	Press corresponding button yz on Switch ab for channel yz on bank ab	Select the active bank (switch) and channel
Next Lower Channel	**ScrLk + ScrLk +** (arrow up)	Cursor keys to navigate **Enter** to select	Press corresponding button	Select the next lower connected channel
Next Higher Channel	**ScrLk + ScrLk +** (arrow down)	**Enter** to select	Press corresponding button	Select the next higher connected channel
Next Lower Bank	**ScrLk + ScrLk + PgUp**	**PgUp** (w/ OSD Menu)	Press corresponding button	Select the next lower bank (switch) with multiple daisy-chained units
Next Higher Bank	**ScrLk + ScrLk + PgDn**	**PgDn** (w/ OSD Menu)	Press corresponding button	Select the next higher bank (switch) with multiple daisy-chained units
Autoscan Beep Sound On/Off	**ScrLk+ScrLk + B**	N/A	N/A	Toggle on/off the beep sound for switching confirmation while autoscanning. The beep sound can be turned off during normal switching
Load Factory Default	N/A	Main Menu / Setup / Load Default	N/A	Restore the EEPROM settings to the factory default
Change Server Name	N/A	**Enter** (**Ins**) to select/edit	N/A	Change the server name [max. length = 8 alphanumeric characters]
Reset / Initialize	**ScrLk + ScrLk + End**	N/A	N/A	Reset the switch/initialize the daisy-chain setup

Table A.1: Integrated LCD KVM Switch Quick Reference Guide (Continued)

Command	Hotkeys	OSD Control	Front-panel	Description
Show OSD Menu	**ScrLk + ScrLk +** (Space Bar)	N/A	N/A	Activate the OSD Menu on the console screen
Autoscan	**ScrLk + ScrLk + S**	N/A	N/A	Autoscan through every connected channel for quick screen browsing of each channel
Stop Autoscan	Any key	N/A	Press any push-button	Terminate Autoscan activity
Autoscan Period [5 ~ 95 seconds]	N/A	Main Menu / Setup / Autoscan period	N/A	Specify delay time within a range of 5 ~ 99 seconds [default = 10 sec]
Auto Logout Timeout Enable/ Disable 0~ 99 min	N/A	Main Menu / Setup / Auto Logout	N/A	Specify the time out for auto logout screen /keyboard/ mouse locked after timeout period for security (default = 0 = Disable)
OSD Menu Timeout 0 ~ 60 ~ 95 seconds	N/A	Main Menu / Setup / OSD Timeout	N/A	Specify the timeout for OSD menu [default = 60 seconds; 0 = disable]
OSD Title Bar On/Off	**ScrLk + ScrLk + T**	N/A	N/A	Enable/disable the OSD Title Bar [default = ON]
OSD Title Bar Position		Main Menu / Setup / Title Bar		Select the OSD title bar position on your screen
Setup Password [Disable/ Enable]	N/A	Main Menu / Setup / Setup Password	N/A	Enable/disable password protection [default = Disable; password length <= 8 characters]

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